

TEMPORARY FACILITIES AND CONTROLS AND ENVIRONMENTAL POLLUTION CONTROL PLAN

For

JORGENSEN FORGE EARLY ACTION AREA REMEDIATION PROJECT

CONTRACT NO. XXXXX

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Figure 1 – Staging Area Layout

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Attachment G-1 – Stormwater Pollution Prevention Plan

Attachment G-2 – Spill Prevention, Controls, and Countermeasures Plan

Attachment G-3 – Hazardous Materials Management Plan

Appendix G: Temporary Facilities and Controls and Environmental Pollution Control Work Plan

1.0 Introduction

Jorgensen Forge is an operating facility that manufactures precision machine forgings from material grades that include carbon, steel, aluminum, titanium, and nickel based alloys. The facility has been operated by the Jorgensen Forge Corporation (Jorgensen Forge) since 1992 and was previously managed by the Earl M. Jorgensen Corporation (EMJ) from 1965 to 1992. In 1992 the EPA placed the Lower Duwamish Waterway on the National Priorities List and the shoreline of Jorgensen Forge was included. Sampling activities to determine the extents of impacted sediments began in 2003. The results of the investigations concluded shoreline and bank soil and sediment along the Jorgensen Forge property contained elevated concentrations of PCBs that present a risk to human health. A final Engineering Evaluation/Corrective Action was approved by the EPA in 2011 leading to the preparation of a Basis of Design Report for the Jorgensen Forge Early Action Area in March 2013 by Anchor QEA, LLC. (Anchor) on behalf of EMJ and Jorgensen Forge. A Bid Specification package and Design Drawings for the Early Action Area Remedial Action were prepared and Envirocon was solicited to provide a proposal for performed the action.

This Temporary Facilities and Controls and Environmental Pollution Control Work Plan (ECP) has been prepared for the Jorgensen Forge Early Action Area Project and is included as an appendix to the Remedial Action Work Plan (RAWP).

2.0 Purpose and Objectives of Temporary Facilities and Controls and Environmental Pollution Control Plan

The purpose of the ECP is to detail the management of environmental conditions present over the course of the project and methods to ensure proper management of these conditions. Included as attachments to the ECP are:

- The Stormwater Pollution Prevention Plan (SWPPP) which addresses stormwater runoff and in-water sediment turbidity controls
- Spill Prevention, Control, and Countermeasures Plans (SPCCs) related to upland and on-water operations.
- Hazardous Materials Management Plan which address the management of all onsite waste streams

The objectives of the EPC include providing the proposed plan for:

- The management structure for control of environmental conditions at the site during the course of the project
- Means and methods for implementing environmental controls during demolition, dredging, upland excavation, loading and transport of impacted materials and demolition debris, backfill, and restoration activities
- Site Maintenance and Housekeeping
- Site Security
- Air Pollution Controls
- Noise Management
- Protection of Groundwater

3.0 Management of Environmental Conditions

Envirocon employs a management team on all construction projects to perform a variety of roles. One of the most important roles is the protection of the environment during the course of construction activities. As part of the initial site training during mobilization, all site workers are trained on the methods for performing all work activities in a manner to minimize impacts to the environment and reporting procedures when environmental impacts do occur.

The primary responsibility to monitor and manage environmental conditions on site is shared between Envirocon's Site Health and Safety Officer (H&S Officer) and Envirocon's Site Supervisor. The Site Supervisor or H&S Officer will immediately report any impacts to the environment to the Project Manager who will in turn report the conditions to the Owner's Representative. If the incident is significant enough all work activities will be shut down until the condition can be resolved and Envirocon will provide an incident report within 24 hours to the Owner's Representative. If notification calls are required, Envirocon and the Owner's Representative will coordinate as to which party will provide notification. Envirocon will also provide weekly reports summarizing all actions taken related to site environmental conditions.

The attached Hazardous Materials Management Plan further discusses the management process for all onsite waste.

4.0 Demolition

As part of the scope for the removal action, shoreline demolition activities are required to excavate impacted bank soil. Demolition activities include: removal of the current property fence along the shoreline; cutting back, when necessary, and grouting eight stormwater outfalls; removal of miscellaneous bank debris including concrete, brick, wood, and slag; and removal of wooden piers.

Physical hazards associated with demolition activities

There are a number of physical hazards associated with demolition activities and this document focuses on hazards associated with impacts to the environment. Detailed discussion of all physical hazards in relation to employee and personnel safety and protection are discussed in the Site Health and Safety Plan as a separate Appendix to the RAWP.

During removal of stormwater culverts and grouting operations, free liquids may be found at the end of the pipeline and should be contained and captured to the extent practicable. Captured liquids should be placed into 55 gallon drums or a 20,000 gallon storage tank for analysis by the Owner's representative prior to discharge. While only free water is expected to be found, oily residues or discolored liquids may be encountered. Any oily residue that leaks from the piping and discharges on the ground shall be cleaned up and placed in 55 gallon drums for proper disposal. Ensure workers in contact with these liquids are wearing the proper personal protective equipment (PPE) and end of removed pipes are capped to prevent further release of liquids. Any pipelines removed which contain oily or discolored residue shall be placed on plastic separated from other demolition debris until the Owner's Representative clears the piping for disposal. During grouting operations ensure grout is pumped into piping or hand placed at a controlled rate to prevent additional discharge of liquids or residue. If any culverts have a continuous flow of water that prevents removal or capping, consult the Owner's Representative prior to proceeding.

Debris shall be direct loaded or stockpiled on the concrete pad between the Shop Building and the Gas Storage Tanks. Materials not direct loaded shall have wattles placed around the stockpile when not being actively added to or removed from. Stockpiling of debris will be limited to material that must be sized prior to off-loading. Debris removal utilizing in-water equipment will be placed in sediment barges for off-loading at the LaFarge Transloading Facility (LaFarge).

Sizing of removed debris will utilize excavator attached hydraulic hammers and chain saws. Sizing utilizing this equipment will likely cause limited flying debris. All distributed debris shall be sweep up, shoveled, or hand collected and brought back to the stockpile location for loading. Debris sized in place along the back will be removed to the extent possible but may be left in place if below final subgrade stated in the design drawings or at the direction of the Owner's Representative. All debris discovered that presents a threat to human health or the environment shall be removed to the extent practicable.

Bank soil and shoreline sediments shall be direct loaded, to the extent possible. When bank or shoreline sediments cannot be direct loaded due to water content in material or trucking limitations, the materials shall be stockpiled in a designed stockpile containment area in accordance with the design drawings. The containment shall include a 40 mil PVC bottom liner and bermed sidewalls to contain any water that may runoff. All free water shall be pumped to a 20,000 gallon storage tank for testing and off-site disposal or treatment, testing, and release to the King County Sanitary Sewer, in accordance with the approved permit. In the event of a storm, stockpiled soil and sediment will be covered with plastic to minimize collection of potentially impacted storm related runoff water.

During debris, soil, and sediment loading operations, all personnel will stand clear of the path between the truck and the excavator or loader. Plastic will be placed on the ground where soil or sediment could be spilled from an excavator or loader. A laborer will be on the ground to sweep up any spilled materials when it is safe to enter the loading zone. All trucks to be loaded will be equipped with automatic tarps. The laborer will perform a 360-degree walk around of the truck prior to departure to ensure there is no spilled soil or sediment on the truck. Any soil or sediment on found on the truck will be removed prior to departure.

Inventory of anticipated materials to be generated during demolition activities

Materials generated during demolition activities will include:

- Wooden piers/piles
- Slag
- Concrete
- Brick
- Possible miscellaneous construction or metal debris
- Plastic, , steel, and/or iron piping
- Aluminum or steel fencing
- Clearing and grubbing vegetation

Chemical hazards/chemicals generated during demolition activities

Based on the Contract Documents provided it is not expected that chemical hazards will be generated during the execution of the demolition activities. However, because heavy equipment is being used some chemical hazards must be considered. Fuels, oils and other fluids will be used onsite during equipment fueling and maintenance operations. These chemical hazards pose a risk for worker exposure. Envirocon will manage this risk by training employees on and requiring implementation of the project SPCC included as an attachment to this plan. All fueling shall be performed in accordance with the SPCC.

The one demolition activity which may generate a chemical hazard concern is the eight culverts required to be grouted or cut back prior to grouting in place. As the historical inputs to these culverts cannot be verified, if fluids are encountered, they will be handled as identified above. Control measures to be installed

In order to prevent chemical releases or stormwater runoff that may impact the environment, control measures have been planned for the Jorgensen Forge Early Action project. The attached SCPP discusses controls related to fuel and fueling operations. The attached SWPPP discusses controls related to stormwater runoff and erosion. Floating containment booms will be placed in the water prior to start of the demolition activities to contain any floating debris that enters the water. Oil absorbent booms will be placed inside the debris booms to capture unanticipated oils or greases released from groundwater and sediment during demolition and soil/sediment excavation activities.

5.0 MSDS System

The Material Safety Data System is an integral part of any construction project or industrial operating facility. The system is designed to:

- Inventory potential chemical hazards present at a facility
- Plan accordingly for management of chemicals present
- Detail precautions and training required when using chemicals,
- Address how to manage chemical spills,

- Document the health and environmental hazards the chemical poses.

Procedures for logging chemicals

All new chemicals brought on site, whether they are stored and not utilized or used, must be accompanied by a Material Safety Data Sheet (MSDS). Chemical suppliers generally have the MSDS for a product online on the company website. If the MSDS is unable to be found online and was not provided with the shipment, the vendor supplying the chemical shall be contacted to obtain a copy of the MSDS. The MSDS's must be made available to all site workers during construction activities and the introduction of new chemicals to the site should be discussed in the daily/shift tailgate meeting. Prior to using the chemicals, workers are required to review the MSDS for that product.. The MSDS binder will be reviewed weekly by the site H&S Officer to ensure it is completely up to date.

The following is a list of chemicals anticipated for this project:

- fuel
- Lubricants
- Polymer
- Chitosan testing kit chemicals
- Granular activated carbon
- Cleaning chemicals
- Stabilization compounds

Additional chemicals may be identified during the execution of the project and will be added to the MSDS binder. The MSDS binder will be maintained on the project site by the H&S Officer.

MSDS Log Location

The MSDSs will be stored in the Envirocon construction office in a binder labeled MSDS System. Copies of the MSDS binder shall be located on the dredge barge and water treatment barge and contain at least all chemicals that would be utilized or placed on in-water equipment.

Hazardous Materials Management Plan

The HMMP is attached to this ECP and provides additional details related to the MSDS System and process.

6.0 Stockpiling

Due to the limited staging footprint on this project, Envirocon plans to minimize stockpiling of excavated and backfill materials. However, there will be stockpiling of some materials during the course of the project. Stockpiled materials may include, but is not limited to, demolition debris, excavated bank soil and shoreline sediment, upland backfill gravel, filter materials, rip rap, and habitat substrate. Signs will be in place adjacent to all stockpiled material indicating the nature of the stockpiled materials.

Method

With the exception of demolition debris, all stockpiled construction materials will be placed within a contained stockpile area. This area is surrounded on three sides by ecology blocks. For excavated sediment and soil requiring offsite disposal the containment area will also have a 40 mil PVC liner over top. To protect the liner from damage a thin sand layer (less than 6") will be placed over the liner. Water that discharges from the impacted soil or sediment stockpile will be captured and contained in 20,000 gallon tanks on site and handled in accordance with the Water Management and Treatment Plan. The impacted soil and sediment stockpile area will be covered with plastic if there is a potential for rain prior to the next work window. Sand bags shall be placed over the plastic to secure the plastic in place. Wattles will be placed around the perimeter of the stockpile in accordance with the SWPPP.

Backfill materials staged for use the same day as delivery shall not be placed in a stockpile area. If backfill material is placed on the bank, it will be compacted by the end of the work day, or must be located above the high water line.

Locations

The stockpile staging areas are shown on Figure 1. The stockpile staging areas sizes may be adjusted in the field due to a limited work area.

Tracking

A stockpile tracking sheet will be maintained by the Site Superintendent. The tracking spreadsheet will minimally identify the stockpiled material, location of stockpile (if more than one stockpile is in the stockpile staging area where within staging area the stockpile is located), approximate volume, and whether BMPs are in place. Inspections of stockpiles will be completed at the end of each work day to ensure proper BMPs are in place and water has been controlled.

Controls

Only authorized personnel are allowed to add to stockpiles. Stockpiles will be maintained to minimize the risk of unauthorized releases from the site or work area. Fencing around the work zone and 24-hour security at the Jorgensen Forge site will prevent inadvertent contact by unauthorized personnel with the stockpiled materials.

7.0 Managing TSCA Waste

There is up to 430 cubic yards of in-water sediment that contains PCB concentrations over 50 parts per billion (ppb), which is regulated under the Toxic Substances Control Act (TSCA). The TSCA sediment is located at the north end of the Jorgensen Forge shoreline. This material will be removed near the end of the dredging schedule. TSCA sediment will be managed separately from other non-hazardous sediment removed from the Jorgensen Forge property. TSCA sediments will be loaded in to open top containers staged on the sediment barges. The open top containers will be provided by Waste Management and loaded and off-loaded at the uplands area of Jorgensen Forge with a crane or at LaFarge. As containers are filled, water will be syphoned directly off the top of the container with the

dewatering pump to allow as much sediment as possible to be placed in the container. After all containers on a barge are filled and dewatered, the sediment barge will be returned to LaFarge by Envirocon or moved to an off-loading point near the shoreline. Once containers are released to Waste Management, the waste hauler will secure the tops and offload the containers for staging or direct loading onto trucks for disposal. Transportation and disposal of waste will be managed by the Client Group.

All personnel in the dredge zone that could potentially come into contact with TSCA sediment shall wear the Personnel Protective Equipment identified in the Site Specific Health and Safety Plan included in Appendix A of the Project Work Plan.

8.0 Transportation and Disposal of Waste

All transportation and disposal of waste will be managed by Anchor.

Process

Upland

Upland excavated materials will be direct loaded, to the extent practicable, into haul trucks provided by Owner. Due to a limited work zone footprint and timing of haul truck arrival, some upland materials may need loaded into an articulated haul truck, transported to the stockpile area, staged, and loaded by an excavator or front loader. The general plan for loading materials is shown on Figure 1. During north end shoreline excavation when direct loading, trucks will be backed up to the loading zone between the fence line and the Shop Building. During the excavation of the remainder of the shoreline materials, trucks will be routed through the work zone in a one way circular route. Excavation of bank and shoreline materials will occur from south (next to the sheet pile wall) to north.

In-Water

In-water excavated materials will be direct loaded into sediment barges. During loading operations water will be removed from the sediment barge to maximize capacity and minimize water content of dredged materials. At the completion of sediment loading into the barge, Envirocon will transport the barge to LaFarge for off-loading. A second sediment barge will be staged on the opposite side of the dredge barge to allow for continuous operation. After LaFarge unloads all sediment from the barge, the barge will be staged at their facility in preparation for Envirocon arriving to take the empty barge to the work area.

Responsibilities of Contractor and Client Group

As the loading and transporting of waste is a collaborative effort between Envirocon and the Client group, significant daily coordination will be required. This coordination will ensure Envirocon has sufficient trucks available to maintain high productivity.

Envirocon will mobilize a Komatsu WA380 front loader with an approximate 4 cubic yard bucket and a Komatsu PC390 excavator with an approximately 1.5 cubic yard bucket. Between this equipment and the Komatsu PC650 long-reach excavator direct loading sediment, Envirocon believes that an estimated

minimum daily production rate at 500 cubic yards of material could be achieved. However, due to unknown debris in the shoreline and banks, production could be reduced. Envirocon will coordinate with the owner group on a daily basis to identify the number of waste removal trucks required to maintain an efficient operation. Dry decontamination of the outside of the trucks will be performed by Envirocon prior to releasing the truck for off-haul.

The Client Group will provide open top containers, high sided open top truck trailer, or similar for loading all materials. The truck shall be lined prior to arriving within the Envirocon designated work zone and have an auto-tarp system. Envirocon is not responsible for tarping or covering owner provided waste transport containers.

The Client Group shall ensure all drivers are properly licensed to transport the waste and pre-cleared by security for entry into the Jorgensen Forge facility. The Client Group will provide at least 500 cubic yards waste transport from the site during a ten-hour work day.

Submittals

As the Client Group is responsible for transport and disposal, no load tickets, bill of lading, or manifests will be prepared by Envirocon. No submittal requirements for loading are required from Envirocon

9.0 Unanticipated Waste Streams

If potentially hazardous wastes not previously characterized are encountered in upland or shoreline areas, all work will cease in the affected area. Notification will be made to the Owner. Envirocon will coordinate with the Owner to identify the path forward. Personnel will maintain a clear distance from the waste until further characterization determines it is safe to proceed and a plan for waste removal has been established at which point work may resume in the affected area.

If potentially hazardous wastes not previously characterized are encountered during dredging, all dredging will cease in the affected area. No further dredging will occur in the affected area. Notification will be made to the Owner. Envirocon will coordinate with the Owner to identify the path forward. Once a plan has been developed for the waste removal work will resume in the affected area.

10.0 Site Maintenance/Housekeeping

At all times site maintenance and housekeeping shall be maintained by Envirocon. Good housekeeping practices ensure the site is orderly and presentable, as well as present a safer environment for travel throughout the site. In addition to these benefits, site maintenance is essential to ensure proper stormwater controls. Construction Best Management Practices require maintaining roadways and stockpile areas to minimize the potential for sediment laden stormwater runoff. See attached SWPPP for further information.

11.0 Site Security

The Jorgensen Forge facility forges military components for the United States (US) government and is a secured facility. Only US citizens are allowed within the facility unescorted and access control of the site must be maintained at all times. In order to maintain access control of the site, a temporary fence must be installed at the upland boundary of the Envirocon work area. Entry into and out of this area must be continually monitored by Jorgensen security forces posted at points of egress and all visitors and site workers must sign. On water workers that do not access the work area through the Jorgensen property are excluded from checking in with security. If an unauthorized visitor arrives on site, Envirocon will escort the person to on duty security officer. No access from the water to upland areas shall be given to any person not associated with Envirocon or Envirocon's subcontractors.

12.0 Air Pollution Control Procedures

Work in the Seattle area requires strict emission controls to minimize air pollution. Air pollution occurs in various forms from equipment exhaust to nuisance dust to dust and particulates generated during demolition activities.

All dedicated construction equipment shall use ultra-low sulfur diesel fuel, be Tier 4 compliant for land based heavy construction equipment, have emissions controls for large in water equipment, be maintained in good working order to minimize poor combustion and burning oil in engines, and be shut down when equipment is idle for more than 5 minutes.

On-site travel paths shall be swept, as needed, to maintain roadways and site roads free from tracked dust. If dirt impacts off-site roads from construction operations, Envirocon will immediately clean roadways. Work zones will be lightly wetted or misted to prevent excessive dust generation from work activities.

Demolition activities, especially concrete breaking, can generate a significant quantity of dust. Not only is the particulate matter a concern but silica found in concrete can be a health hazard to workers. During concrete crushing and other demolition activities, water shall be used to suppress dust. If upland and bank soil is found to be sufficiently dry water will be used during excavation, to control dust. If permits are required to be obtained prior to and related to demolition activities, Envirocon will obtain all permits.

13.0 Noise Management

As the Jorgensen Forge facility is located on the Lower Duwamish waterway in an industrial area, extensive noise reduction efforts are not required. Active work may be performed at all hours but attempts should be made to limit or control excessive noise. Generally, through proper maintenance of construction equipment, excessive noise can be controlled to the degree possible. No equipment shall have factory installed noise reduction measures bypassed or removed.

Workers shall adhere to the hearing protection requirements identified in the Health and Safety Plan.

14.0 Protection of groundwater

As most excavation activities are occurring at the shoreline bank, impacts to groundwater are unlikely. However, the stormwater pipeline connection will require excavating a trench to up to ten feet below ground surface to connect to the end of existing piping away from the bank. Spills from oils, fuels, or other potentially hazardous chemicals could impact groundwater resources. Therefore all fueling and maintenance should occur away from excavation areas and on concrete pads or within a specifically designed fueling area as discussed in the attached SPCC. All equipment should be inspected for leaks before beginning each shift and periodically through the work day.

Figures

Attachments
